

XLII.—On the Unity of the genera *Pleuracanthus*, *Diplodus* and *Xenacanthus*, and on the Specific Distinction of the Permian Fossil *Xenacanthus Decheni* (Beyrich). By Sir PHILIP DE MALPAS GREY EGERTON, Bart., F.R.S.

To the Editors of the *Annals of Natural History*.

GENTLEMEN,

I am induced to offer the following notice for publication in the *Annals of Natural History* by the strong feeling I entertain (in common, I believe, with all naturalists) of the advantage of correcting and amending the nomenclature of the various objects of our studies in accordance with the progress of scientific knowledge and the discoveries of the day.

The genus *Pleuracanthus* was established by Professor Agassiz in the year 1837. The only portion of the fish then discovered was the defensive spine, the resemblance of which to the dagger of the *Trygon* and other armed Rays induced him to classify *Pleuracanthus* with that family. The species *P. levissimus* was found in the Dudley coal-field. Two other species were subsequently named, found in the coal-fields of Leeds and North Wales. More recently these peculiar spines have been found in considerable abundance in the neighbourhood of Edinburgh and at Carlisle, and three additional species have been described by Dr. Newberry from the coal-measures of Ohio. In the year 1834 I discovered, in the coal-shale of the Silverdale Mine in North Staffordshire, some remarkable tricuspid teeth, to which Agassiz assigned the new generic title *Diplodus*. Similar teeth were discovered about the same time by the late Dr. Hibbert Ware in the neighbourhood of Edinburgh, and by Mr. Rankin at Carlisle. They have since proved of common occurrence in most of our British coal-fields, and I have also received specimens from Prof. Dawson from the same formation in Nova Scotia.

In the 'Jahrbuch' for 1849, Professor Beyrich gives a detailed description of *Xenacanthus Decheni*, a most remarkable fish found in the Rothe-todt-liegende at Rùppersdorf in Bohemia. The general form of the fish resembles *Squatina*, but its most remarkable feature is the insertion of a defensive spine immediately behind the occiput. This spine is described as having the greatest resemblance to those of the genera *Pleuracanthus* and *Orthacanthus* of Agassiz; so much so, that Beyrich suggests the propriety of uniting the three genera as a subfamily of the *Raiida*. The late Prof. Goldfuss went a step further, and merged *Xenacanthus* in *Orthacanthus*. It is therefore fair to presume, that the continental discovery has given us the clue to the true characters of the fish from which these peculiar spines are derived. In his lucid

description of *Xenacanthus Decheni*, Beyrich remarks that the teeth resemble those of *Diplodus*. If evidence were wanting to complete the argument for the approximation of these genera, it is supplied by this fact; for I had the opportunity of determining most conclusively, by the examination of the fine series of specimens exhibited at the meeting of the British Association at Glasgow (1855), that the spines of *Pleuracanthus* and the teeth of *Diplodus* belonged to the same fish.

Through the kindness of Sir Roderick Murchison, I have been enabled within the last few days to settle this matter decisively, by the inspection of a series of most perfect specimens of *Xenacanthus Decheni*, Beyr., from the Permian strata of Klein Neundorf. The spines of this Permian fish cannot be generically distinguished from those of the genus *Pleuracanthus* of the Carboniferous rocks; neither can the teeth be separated from those of *Diplodus* of the same age. There are, no doubt, differences between them, but these are of specific, not of generic significance. The genus *Orthacanthus* of Agassiz has evidently very close affinities with *Pleuracanthus*; but the approximation of the lateral rows of tubercles on the under surface of the spine, is a character, perhaps, of generic import. All these spines differ from the defence-bones of the armed *Raiidæ* in having hollow bases. Considering publication as the test of priority, the genera *Diplodus* (1843) and *Xenacanthus* (1847) must merge into *Pleuracanthus*, which was put forth in the 'Poissons Fossiles' in 1837.

I remain, Gentlemen,

Your most obedient Servant,

P. DE M. GREY EGERTON.

Oulton Park, Nov. 17, 1857.

XLIII.—*Remarks on the species of Whales which have been observed on the coasts of Cornwall.* By JONATHAN COUCH, Esq., F.L.S. &c.*

THERE is no department of Natural History, unless perhaps we except the minute and microscopic, which is so little understood, especially in regard to the distinction of species, as that which comprises the Whale tribe; two or three of which, that have been numbered among British animals, appear to have been confounded together by different writers, while others have been considered as distinct that are only varieties, and some have probably escaped observation altogether;—circumstances which were the chief inducements to F. Cuvier, brother of the more

* Abridged from the Report of the Royal Cornwall Polytechnic Society, 1856, p. 27.